

# Global Thermoelectric Inc.

Winspear Business Reference Room  
University of Alberta  
1-18 Business Building  
Edmonton, Alberta T6G 2R6

1998  
Annual  
Report

# corporate profile

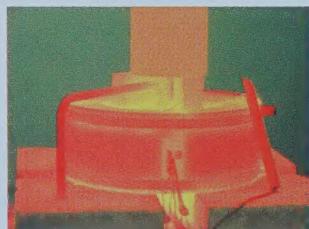
## Thermoelectric Generators

produce **electricity** by  
thermoelectric conversion  
of **heat** from a gas flame



## Fuel Cells

produce **electricity** and  
**heat** by combination  
of hydrogen and oxygen



Since its inception in 1975, Global Thermoelectric Inc. has been a world leader in manufacturing and sales of generators that use heat to directly produce electrical power. In recent years the Corporation has expanded its product line to include a new crew compartment heater for military vehicles. Global is also developing advanced electrical generators using fuel cell technology.

In the past year, sales outside of Canada accounted for more than seventy percent of Global's generator division revenue. This worldwide diversification has resulted in both increased income and lessened dependence on a single, cyclical market. Additional diversification will be gained as the heaters division begins volume production under an \$18 million contract signed with the United States Army.

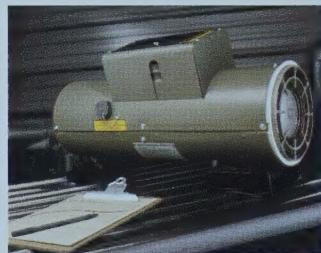
Global spends a significant portion of its revenue on research and development. Innovative new technology enables the Corporation to provide solutions for the increasingly complex requirements of international customers. Commercialization of Global's fuel cell technology will open new markets in applications requiring higher power levels than can be economically addressed by the current product line.

Global's head office and research laboratories are located in Calgary, Alberta, Canada. The Corporation's manufacturing plant is in Bassano, Alberta, about 125 km. east of Calgary.

Common and preferred shares and warrants of the Corporation trade on the Alberta Stock Exchange under the symbols GLE, GLE.PR, and GLE.WT.A respectively.

## Vehicle Heaters

**heat** the personnel  
compartment of large  
military tracked vehicles



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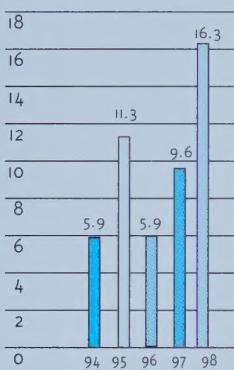
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## 1998 highlights

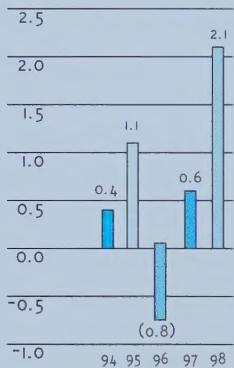
(thousands of Canadian dollars, except per share data)

	1998	1997
Sales	\$ 16,273	\$ 9,649
Cost of Sales	11,045	6,424
Gross Profit	5,228	3,225
Expenses		
Marketing	981	813
Administration	1,270	1,094
Research	135	104
Interest on long term debt	36	57
Depreciation & amortization	493	508
Total expenses	2,915	2,576
Earnings before taxes	2,313	649
Deferred income taxes	198	—
Net Income	\$ 2,115	\$ 649
Net income per share before dividends	\$ 0.17	\$ 0.06
Net income per share after dividends	\$ 0.16	\$ 0.04
Working Capital	\$ 3,602	\$ 2,352

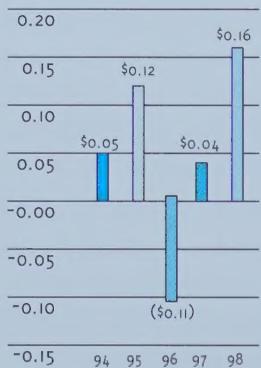
ANNUAL REVENUE  
 \$ MILLION



NET INCOME  
 \$ MILLION



BASIC EARNINGS  
 PER SHARE



## report to shareholders

Bob Snyder,  
Chairman (left)  
and Jim Perry,  
President



**The fiscal year ended March 31, 1998 was the best year ever recorded by Global.** Revenue of \$16,273,220 was up by 69 percent from the prior year. Net income was more than triple the 1997 amount, at \$2,115,520 versus \$649,311 in the previous period, resulting in basic net income per share of \$0.16 versus \$0.04 in 1997. Bank debt was reduced from \$3,059,471 at the beginning of the year to less than \$1,216,864 at the end, while working capital grew from \$2,351,721 to \$3,602,273. These outstanding results came from a combination of growth and market penetration in a number of areas.

**Rapidly increasing sales of thermoelectric generators** were a major factor in the Corporation's success. Two of the most significant generator orders ever obtained by Global were shipped in the first quarter to customers in India and China. Later in the year, significant sales were made in Argentina, Thailand and Brazil. Total international sales were almost double the level recorded in the prior year. Sales of generators into the United States and Canada were up by about 45 percent. Growth in oilfield activity and continued development of natural gas reserves and infrastructure were driving forces behind the increased revenue. Global has now sold its products into more than 40 countries worldwide, including customers operating on all seven continents.

**Significant progress was made in the development of the Global A20 personnel heater.** A contract to develop a new generation heater was awarded to Global by the United States Army's Tank Automotive Command ("TACOM") in 1996. This diesel fuel burning heater is designed to warm the crew compartment of tracked military vehicles like the M1 Abrams main battle tank and the Bradley Fighting Vehicle. The initial phase of the \$18 million project involved refining the design of the prototype version, and rigorous physical and electrical testing of first production units at the Army's Aberdeen Proving Grounds in Maryland, U.S.A. Physical testing of the heaters was completed on July 6, 1998, with formal approval to begin full production received on July 14. Delivery of an initial production run of 300 units is expected by October, 1998. TACOM is committed to purchase another 1,700 units, with an option on 2,000 more.

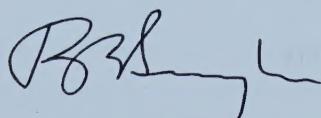
**In July 1997, Global signed a fuel cell agreement** with Forschungszentrum Jülich, one of the largest research institutes in Germany. With more than 4,500 employees and an annual budget of about \$380 million Canadian, the Institute focuses on energy related matters and is one of the world's leading authorities on solid oxide fuel cells. These cells produce electricity by chemical combination of hydrogen and oxygen at high temperature — about 850 degrees centigrade. Jülich has licensed its technology to Global as a base for the creation of commercially viable power supply products to serve applications requiring higher power levels than can be addressed by the current Global product line.

To accelerate the fuel cell program, Global has leased an additional 6,300 square feet of office and laboratory space adjacent to its headquarters in Calgary. Senior scientists and engineers have been recruited, with expertise in ceramics, exotic metals fabrication and high temperature materials and chemistry. Infrastructure to allow cell testing at elevated temperatures has been installed. On March 4, 1998 Global tested its first flat plate solid oxide fuel cell unit. Since that time, good progress has been made towards creating the first "made in Canada" solid oxide fuel cell.

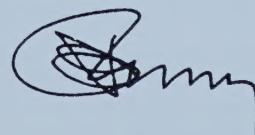
**Research and development efforts have successfully reduced warranty and manufacturing costs** by focusing on products that could be improved without sacrificing reliability. In the coming year, R&D projects that have the potential to bring incremental new business or cost reductions will form the base of Global's activities. A concerted effort will be made to find strategic partners for new initiatives, including certain fuel cell markets and new applications of thermoelectric technology. Substantial resources have been devoted to ensuring a successful conclusion to the crew compartment heaters testing program in the early part of fiscal 1999.

**On April 17, 1998 Global closed an equity offering that raised \$3 million.** The issue was sold in Alberta and British Columbia and was primarily targeted at funding the needs of the fuel cell program. The offering was oversubscribed and involved 3,333,333 units that were sold at \$0.90 each for total proceeds of \$3 million, with net proceeds to Global after expenses of about \$2.7 million. Each unit consists of one common share and one common share purchase warrant. The warrants are exerciseable at \$1.05 per common share until April 17, 1999. In June 1998, Global filed an application for listing on the Toronto Stock Exchange.

**The coming year should see Global transformed** from a single technology company to a broader based, multi segment manufacturer. We look forward to the challenges this change will bring, and appreciate the support of our employees, directors and shareholders.

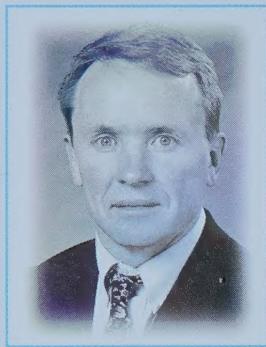
A handwritten signature in black ink, appearing to read "R.B. Snyder".

R.B. Snyder, Chairman

A handwritten signature in black ink, appearing to read "J.F. Perry".

J.F. Perry, President

# thermoelectric generators



*Bernie LeSage is Vice President of the Generators Division. He has a Masters of Engineering degree from McGill University and an MBA from Cranfield School of Management in England. Bernie joined Global in 1992.*

Global's thermoelectric generator division is its core business, with sales of \$14.2 million in fiscal 1998. The Corporation is truly a global exporter. Thermoelectric generators have been sold into more than forty countries worldwide, and have been used on all seven continents — even Antarctica. Sales offices are located in Calgary, Alberta; Houston, Texas and Harbin, China.

Since acquiring the thermoelectric technology in 1975, Global has developed a wide range of power generators which supply from 15 to 550 watts. The largest unit can provide sufficient electricity to operate a satellite communications system. Thermoelectric generators are the power source of choice in remote areas where reliability and independence from the commercial electricity grid are key requirements.

There are many different areas where Global's thermoelectric generators find application. One of the most important is in providing power for pipeline corrosion protection equipment. By putting a weak electric current into the ground at various locations along the length of a pipeline, the electrochemical reaction that occurs when iron turns to rust is inhibited. Thermoelectric generators are also used to power remote telemetry equipment, both in the oilfield and in telecommunications. Global generators provide the electricity used by the airport runway lights at the remote mining town of Faro in the Northwest Territories of Canada. They provide power for instrumentation and pressure monitoring equipment for a major gas line in India, and they run control instrumentation for metering stations in Argentina.

Global's internal statistics indicate that the Corporation has over 95% of the world market for thermoelectric generators.

## **What is a thermoelectric generator?**

Thermoelectric generators turn heat from a natural gas or propane flame directly into electrical power. The conversion is accomplished by creating a large temperature difference across small elements, each the size of an aspirin pill. One side of the element is connected to a plate that is heated by the flame; the other side is fastened to a thick aluminum plate with large fins which absorb and radiate heat, cooling that side of the element. The elements are made of a proprietary mixture of lead, tellurium and other metals. Their semiconductor character generates an electric current when heat passes through them. A number of elements are connected together to make a thermopile which can produce commercial quantities of power.

Whenever there is a new pipeline being built that requires power in locations far from the commercial grid, Global usually gets the order. The downside of this high market share is a dependence on the schedule for building such lines. The timing can be such that prolonged periods can exist when few international orders are received. In Canada and the United States, the annual cycles of the oil and gas industry are felt by Global as well. Managing the business to handle these potentially large swings in orders from quarter to quarter is always a challenge.



5,000 watt thermoelectric generator system in India

## manufacturing

### Why Bassano?

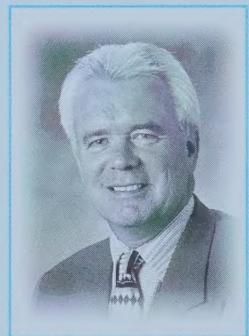
Global's thermoelectric generator technology was originally developed by the 3M Company to supply electric power for space missions. In the early 1970s, 3M decided to sell the business. One of the scientists responsible for the disposition was on a goose hunt in the town of Bassano, east of Calgary, and mentioned that the technology was available. A group of local investors was assembled and a deal was struck to create Global with its manufacturing plant in the town.

Global has been manufacturing its own products since the inception of the Corporation. The fabrication and assembly plant is located in the small town of Bassano, about 125 kilometres east of Calgary. The work force in Bassano is highly skilled and very stable.

In the last fiscal year, and carrying on into this coming year, Global will make significant investments in machine tools at the plant. Each acquisition is evaluated for payback. Major purchases are expected to decrease costs through improved efficiency or through allowing work to be done in-house that would otherwise have to be subcontracted to an outside supplier. Machines that are added are specified so as to be able to build components for both thermoelectric generators and heaters if at

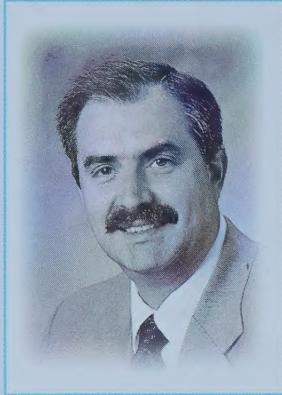
all practical. In fiscal 1999, the productivity enhancement program will cost about \$1.2 million dollars. Most of the new equipment will be financed through a lease arrangement with either the vendor or a commercial leasing company. This strategy preserves Global's cash for use in other areas of its business.

The plant has an outstanding safety record. As a result, the Workers' Compensation rate that Global pays is at the minimum for the Corporation's industry bracket. Each year the facility is audited for quality by an external registrar. Global continues to hold ISO 9002 quality registration.



*George Longmuir has been the Plant Manager in Bassano since joining Global in 1994. He was previously Operations Manager for a major electrical equipment manufacturer in Toronto, Ontario.*

# heaters



*Daryl Marlino is Manager of the Heaters Division. A graduate in Mechanical Engineering from the University of Waterloo, he joined Global in 1983.*

\$3.8 million for completion of the first phase of the contract. In addition, a fee of \$400,000 will be payable upon completion of the testing and delivery of the first 300 heaters. Global has been responsible for the final costs involved since the maximum contract amount has been reached. Part of the shortfall will be amortized over the remaining life of the contract, as the engineering changes that have been developed will bring benefits to all future heaters that are built. The remaining amount will be expensed as a startup cost as the first 300 heaters are delivered.

Full production of heaters is scheduled to begin in October 1998 at a rate of more than 200 units per month. Once shipments begin, the heaters business unit will be a major contributor to Global's revenue stream.

In 1996, Global competed with two other companies for a contract to upgrade the personnel compartment heaters used in tracked military vehicles like the Abrams Main Battle Tank and the Bradley Fighting Vehicle. The contract was awarded to Global as a result of the demonstrated superiority of the Corporation's new heater design.

The contract consists of three phases. In the first, Global had to design and build prototype heaters. These heaters have passed a rigorous testing program at the Army's Aberdeen Proving Grounds in Maryland, just outside of Baltimore. This first part of the contract has not gone as smoothly as was originally anticipated. The Corporation hoped that testing would be finished by the end of March. Delays were caused by design problems which have since been rectified and by scheduling conflicts for the limited high cost facilities in Aberdeen. Global was allocated about

## **Why is the Global heater better?**

The heater that Global has developed for the U.S. Army is "smart". Its onboard microprocessor monitors the unit's functions to ensure safe and reliable operation. When external factors such as a plugged exhaust line affect the heater, it senses the situation and takes appropriate action to reduce output or shut down. Built-in diagnostics and modular construction enable rapid field maintenance or repair. In future fully digital vehicles, the heater's communication port and on-board memory will allow it to interface directly with the main computer. Since the heater is the same size as older units and has identical connections for fuel and power, it can be directly installed into existing vehicles as an upgrade to provide enhanced performance and reliability.

Global has signed a Memorandum of Understanding with one of the world's largest manufacturers of heating and cooling equipment for truck trailers. Under the terms of this agreement, Global built three prototype truck trailer heaters based on the proven military heater technology. These prototypes were designed to work from a standard 12 volt truck power supply and have infinite heat adjustment between outputs of 15,000 and 45,000 btu per hour. A limited amount of testing was done with the prototypes during the winter of calendar 1997-1998. Further testing will be done this coming winter to better define the specifications that will be needed for a commercially successful product for use on truck trailers to keep beverages and foods from freezing in cold weather. Revenue from this initiative is probably at least two years away.

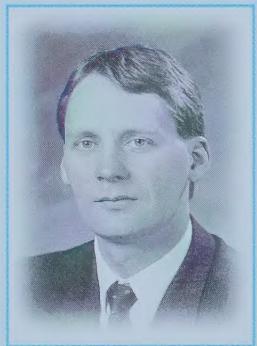


Truck trailer heater prototype

## research and development

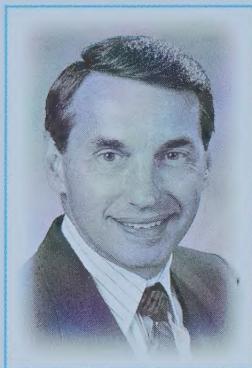
Global is committed to an aggressive research and development program. One of the most significant results of the fiscal 1998 R&D program was the completion of design and construction of a new thermoelectric generator insulation processing unit at the Corporation's manufacturing plant in Bassano. The methods used to prepare the insulating material for generators have remained essentially unchanged since the technology was obtained from 3M Company 22 years ago. Advances in automated control technology and instrumentation have allowed Global to build a new processing unit that produces superior results and allows increased throughput.

In fiscal 1998, the Corporation spent \$1,230,000 on R&D activities, with \$135,000 being expensed and \$1,095,000 being accounted for as deferred development. The decision as to which R&D costs are deferred and which are expensed is made at the end of each project by determining if there will be a long term benefit from the results. If so, the project costs are amortized, generally over four years. If not, the costs are expensed. In 1998, deferred development costs were lower than anticipated because a significant amount of engineering effort was directed toward completion of the heaters testing program.



*Gord McBride is Manager of Engineering at Global. His group provides support for the three operating divisions and does the Corporation's R&D work. Gord has an engineering degree from the University of Regina and joined Global in 1991.*

# fuel cells



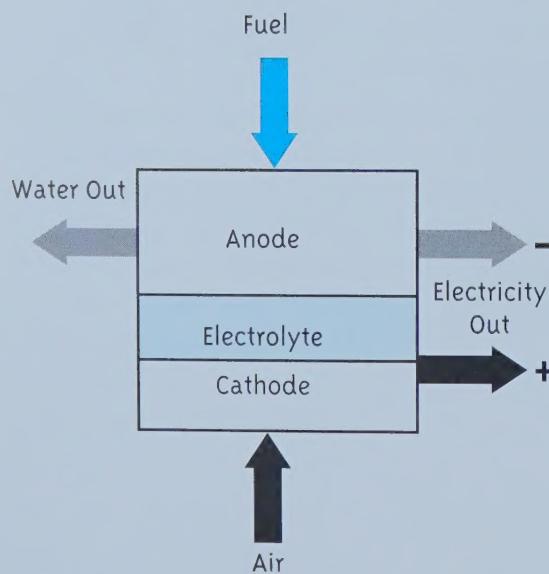
*Jim Lumsden is Vice President of Research and Development, responsible for Global's fuel cell project. He was Operations Manager at Southern Telecom before joining Global in 1994.*

A fuel cell is an electrochemical device that takes a fuel such as hydrogen or natural gas and combines it with oxygen to produce electric power, heat, water and carbon monoxide if natural gas is used. The fuel is not burned, but is chemically combined with the oxygen in the air. Since there is no combustion, the cell does not generate the harmful types of emissions associated with internal combustion engines.

A fuel cell consists of three main parts. It has an anode, where negative voltage is generated, and a cathode, where positive voltage is produced. Both are porous to allow the gases to pass through them. Between the two is an electrolyte, which allows the oxygen and hydrogen to combine, generating electricity and producing heat and water as byproducts.

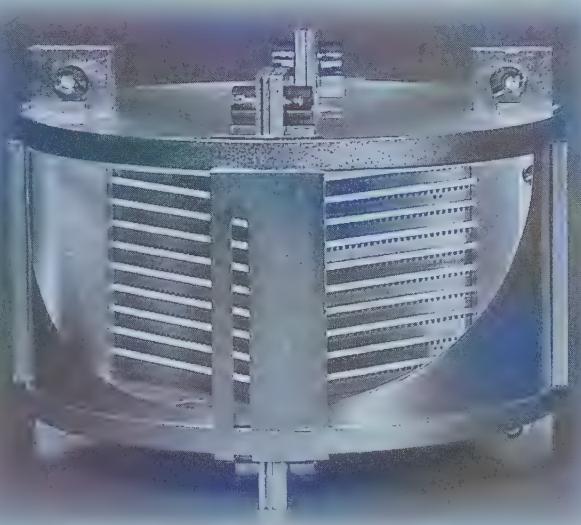
Several different types of fuel cell are being investigated today. The proton exchange membrane (PEM) cell operates at a low temperature (around 80 degrees C) and uses a specialized plastic membrane as an electrolyte. This type of cell requires pure hydrogen as fuel. The hydrogen may be supplied directly from tanks, or it may be produced from other indirect sources such as natural gas or propane by passing the fuel through an external device known as a reformer. Reformers are generally bulky and expensive. The PEM cell has very little tolerance for contaminants such as carbon dioxide or sulphur compounds.

Global Thermoelectric is developing a solid oxide fuel cell (SOFC). This type of cell operates in a temperature range of 650 to 850 degrees C. The anode, cathode and electrolyte are made from ceramic materials to withstand the heat. The SOFC does not need an external reformer to make hydrogen. Instead, due to the high operating temperature, hydrogen is produced directly inside the cell using a catalytic process to break the fuel down.



When the cell is running, it produces a considerable amount of heat as well as electricity. Using this heat outside of the cell stack allows the overall efficiency of the unit to be optimized. Applications such as heating residential water supplies and providing warmth for industrial buildings are among the options being studied.

In order to produce significant amounts of power, solid oxide fuel cell elements are assembled into a stack, analogous to a multi-layered sandwich. Cell membrane assemblies, each including an anode, electrolyte and cathode, are stacked with metal interconnecting plates between them. The metal plates, made of a special heat resistant alloy, are grooved to allow flow of the hydrogen and oxygen to the membranes.



*Fuel cell stack*

to all of Jülich's SOFC technology. Transfer of the technical data to Calgary is essentially complete. Global will modify the Jülich laboratory scale designs to make them both manufacturable and economic.

The first milestone in Global's fuel cell program was the assembly and testing of a planar SOFC stack at the Corporation's new 6,300 square foot fuel cell laboratory in Calgary. This objective was achieved on March 4, 1998. During the test process, the stack produced electricity at a power level approaching 5,000 watts per square metre of membrane area, well exceeding expectations. To the best of Global's knowledge this was the first time a planar SOFC stack was assembled and operated in Canada. Early in calendar 1999 the Corporation hopes to have its first "made in Canada" prototype 1,000 watt stack ready for testing. In manufacturing this stack, Global will use pre-production processes rather than the laboratory scale methods used for prior units. Achievement of this objective will demonstrate that commercially viable techniques can be applied to the volume manufacturing of SOFC stacks.

Solid oxide fuel cells will serve as the basis for power supply products to be developed by the Corporation. Global believes that the high efficiency and power output provided by this type of cell can be used in large potential markets such as cable television distribution systems, cellular telephone sites, European residential utility applications, and future hybrid electric vehicles.

A ten cell stack is shown in the cutaway photograph to the left. The various horizontal layers of membranes and interconnect plates can be seen. The stack is about 25 cm. in diameter.

In summer 1997, the Corporation signed a Memorandum of Agreement with Forschungszentrum Jülich, one of Germany's largest research institutes, to allow Global to obtain the institute's SOFC technology. Jülich has an annual budget of about \$380 million Canadian, and has more than 4,500 staff. Its SOFC technology is among the most advanced in the world. Under the terms of the agreement, Global has access



*Dr. Dave Ghosh is Manager of Global's fuel cell division. He holds three patents and has presented more than 40 papers and talks at conferences around the world. Dave received his Ph.D. from McMaster University in 1975. He joined Global in June of 1998 from the Alberta Research Council.*

# management's discussion and analysis



*Jim Perry has been President of Global since June, 1997. He graduated in Mining Engineering from U.B.C. in 1970 and has worked in a number of locations in Canada and the U.S., including serving as President of Schlumberger of Canada and of Computalog Ltd.*

The following discussion and analysis of financial condition and the results of operations for the years ended March 31, 1998 and 1997 should be read in conjunction with the financial statements and related notes commencing on page 14 of this Annual Report.

## Revenue

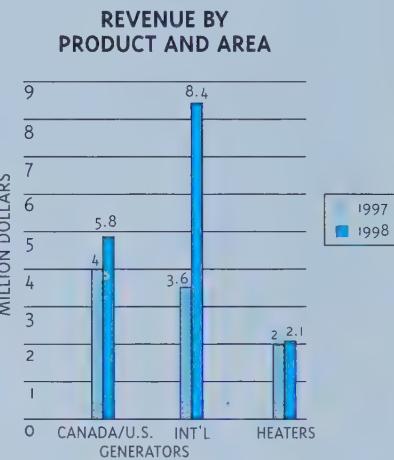
Revenue for the fiscal year ended March 31, 1998 was the highest recorded since the inception of the Corporation in 1975. Sales of thermoelectric generators were improved in all geographic segments. Outside of North America, sales more than doubled versus the prior year, to \$8,400,000 from \$3,640,000. The largest orders, both for more than \$1,000,000, were for customers in India and China. Other sizeable orders were received from Thailand, Brazil and Argentina. Sales to customers in the United States increased by about 75% in 1998.

Increased drilling activity and resurgence of the U.S. market were responsible for much of the growth. In Canada, where the Corporation has had a steady business for many years, sales increased by about 35% compared to the previous period. Higher levels of natural gas well completions caused most of the change.

Revenue received for work done under the heaters contract was \$2,060,000 compared to \$2,010,000 the prior year. Revenue under the first phase of the contract has been drawn down to the contract limit of about \$3,800,000, excluding a completion fee of \$400,000 which will be paid to Global when the testing of heaters at Aberdeen Proving Grounds is complete, the final report is accepted, and the first 300 heaters are delivered. In addition, a holdback of about \$960,000 will be released. This amount has been booked as a receivable on a monthly basis since the start of the contract two years ago. As a result, the Corporation's accounts receivable balance is higher than it would normally be.

## Expenses

Cost of goods sold was 67.9% of sales in 1998 versus 66.6% in 1997. The small increase was a result of the growth in international sales which involve payment of agent's commissions. Marketing expenses were up by \$168,000 to \$981,000 due to emphasis on international expansion. While marketing dollars were up, these expenses as a percentage of sales dropped to 6.0% from 8.4% in the prior year due to the growth in revenue. Administration decreased from 11.3% of sales to 7.8% for the same reason.



Research and development costs amounted to \$1,230,000 during the year, of which \$135,000 was expensed and \$1,095,000 was added to deferred development. In 1997, R&D cost was \$528,000 of which \$104,000 was expensed. A considerable amount of the Corporation's R&D effort during fiscal 1998 went toward completion of testing of the new military vehicle heaters. The costs were claimed under the terms of the contract as incurred. (See "Heaters" for more details).

After many years of using prior period losses, Global became taxable during 1998. In November 1997, the Corporation recorded its first income tax liability. It is not anticipated that Global will pay any cash tax in fiscal 1999 due to the deductibility of research and development expenses, including those that are deferred. Net income for the year 1998 was a record at \$2,115,520 versus \$649,311 in fiscal 1997. Basic earnings per common share before dividends paid on the preferred shares were 17 cents. After dividends, earnings per share were 16 cents, compared to 4 cents per share in the prior year.



*Larry Kyle is Global's Controller. He is a Certified General Accountant who joined the Corporation in 1993.*

## Liquidity and Capital Resources

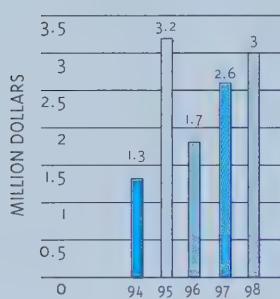
Cash flow from operating activities before working capital changes was \$2,806,509 in 1998 versus \$1,157,183 in the prior period. In 1997, inventory growth as a result of building equipment for two major international orders consumed considerable cash. In 1998, collection of major international receivables during the year helped contribute to the improved result. Working capital (current assets less current liabilities) at the end of 1998 improved to \$3,602,273 versus \$2,351,721 at the end of 1997, reflecting the increased sales and profits. Bank debt at the end of the 1998 fiscal year stood at \$1,216,864 versus \$3,059,471 at March 31, 1997. Increased profits and cash flow allowed paying down the amount owed.

At March 31, 1998 the Corporation had an operating line of credit with the Bank of Nova Scotia in the amount of \$2,250,000 secured by receivables, inventories and a general charge on the assets of the Corporation. In addition, a project financing line of \$1,500,000 is available to allow building of inventory for specific large orders. The operating line bears interest at prime plus one percent; the project financing line interest rate is at prime plus one and one-half percent. At the end of 1998, Global was in compliance with all terms and covenants of its financing facilities.

About three-quarters of the Corporation's sales are made outside of Canada. These sales are usually made in U.S. dollars. The Corporation has not hedged its exposure to U.S. dollar orders in the past, and recorded a foreign exchange gain of \$102,615 during the year. The Corporation generally requires a letter of credit or Export Development Corporation insurance to be in place for an international order before shipment is made. In 1998, out of total sales of \$16,273,220, only \$38,000 was recorded as a bad debt provision.

As of March 31, 1998 Global had outstanding 625,000 Series 1 Preferred Shares. These shares bear an annual dividend of 10%, paid in U.S. dollars. The shares are redeemable upon thirty days notice to holders by the Corporation. In fiscal 1998 a total of \$195,303 was paid in dividends on these shares. Dividends are normally paid at the end of June and December. Global paid all dividends on their due dates during the year.

#### WORKING CAPITAL



As of March 31, 1998 there were 612,000 stock options outstanding which are exercisable at prices from \$0.28 to \$0.55 per share. If all of the stock options were exercised, the Corporation would receive proceeds of \$276,300. These funds would be available to increase working capital.

Subsequent to the end of the fiscal year, on April 17, 1998 Global closed an equity offering that raised \$2,790,000 net to the Corporation excluding legal and accounting costs of about \$70,000. The issue involved units that were sold at \$0.90, each of which consisted of one common share and one common share purchase warrant. The offering resulted in the issuance of 3,333,333 new common shares from treasury, as well as the issuance of 3,333,333 common share purchase warrants that are exercisable for \$1.05 each until the close of business on April 17, 1999. In addition, 333,333 Agent's Warrants were granted, exercisable at \$0.90 per share until 18 months after the closing of the offering. The funds from the issue will be primarily used to fund the Corporation's fuel cell development program.

#### Year 2000

The Company does not produce products that use or record the date and that would be affected by the Year 2000 issue. Global has examined its accounting and payroll systems for Year 2000 compliance, and believes that the matter will be resolved with minimum cost to the Corporation. Most of the solutions needed are already in place or underway through vendors that supply Global. There are a few older computers used in data logging and internal computing applications. These machines are not Year 2000 compliant. They will be replaced during this fiscal year as part of the normal upgrading of computer hardware that the Corporation undertakes. Global is also working with its customers and suppliers to avoid any operating problems or disruptions related to this issue.

#### Corporate Governance

Global's approach to corporate governance is contained in the Company's Information Circular prepared for the Annual and Special Meeting of Shareholders to be held on September 10, 1998 which is available from corporate head office upon request or to shareholders of record with the mailing of the annual report and proxy statement.

## Environmental Policy

It is Global Thermoelectric's policy to operate its business in a manner which protects the environment, the health of its employees and of the citizens of the communities in which it has an impact. Global will comply with all applicable environmental laws, regulations and permits at each of its operating locations, and will employ more restrictive internal standards where necessary to conform with that intent.

## Safety Policy

Global is committed to accident prevention and to the personal safety of its employees. The Corporation provides a healthy and safe work environment for everyone, with the objective of having an accident-free workplace. Global's policy is to ensure that its operations are in compliance with the Occupational Health and Safety Act within each jurisdiction.



# management's responsibility for financial reporting

The consolidated financial statements of Global Thermoelectric Inc. were prepared by management in accordance with accounting principles generally accepted in Canada. The financial and operating information presented in this statutory report is consistent with that shown in the financial statements.

Management has designed and maintains a system of internal controls to provide reasonable assurance that all assets are safeguarded and to facilitate the preparation of financial statements for reporting purposes. Timely release of the financial information necessitates the use of estimates when transactions affecting the current accounting period cannot be finalized until future periods. Such estimates are based on careful judgements made by management.

External auditors appointed by the shareholders have conducted an independent examination of the corporate and accounting records in order to express their opinion on the financial statements. The Audit Committee, consisting of a majority of non-management directors, has met with the external auditors and management in order to determine if management has fulfilled its responsibilities in the preparation of the financial statements. The Audit Committee has reported its findings to the Board of Directors and the Board has approved the consolidated financial statements.

Jim F. Perry, President

Larry I. Kyle, Secretary

## auditors' report

To the Shareholders of  
Global Thermoelectric Inc.

We have audited the balance sheets of Global Thermoelectric Inc. as at March 31, 1998 and 1997 and the statements of earnings and deficit and changes in financial position for each of the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Company as at March 31, 1998 and 1997 and the results of its operations and changes in its financial position for each of the years then ended in accordance with generally accepted accounting principles.

Calgary, Alberta  
May 7, 1998

  
Deane Raymond  
Chartered Accountants



## statements of earnings and deficit

Year Ended March 31	1998	1997
Sales	\$ 16,273,220	\$ 9,648,749
Cost of sales	11,045,138	6,424,021
Gross profit	5,228,082	3,224,728
Expenses		
Marketing	981,425	812,658
Administration	1,269,470	1,093,932
Research	134,767	104,101
Interest on long-term debt	36,361	56,854
	2,442,023	2,067,545
Earnings before undernoted	2,806,059	1,157,183
Depreciation	297,837	241,596
Amortization of deferred development costs	197,202	259,423
(Gain) loss on sale of fixed assets	(2,223)	6,853
	492,816	507,872
Earnings before income taxes	2,313,243	649,311
Deferred income taxes (Note 9)	197,723	—
Net earnings	\$ 2,115,520	\$ 649,311
Basic earnings per common share	\$ 0.16	\$ 0.04
Fully diluted earnings per common share	\$ 0.15	\$ 0.04
Deficit, beginning of year	\$ (2,043,850)	\$ (2,497,353)
Net earnings	2,115,520	649,311
Dividends - preferred shares	(195,303)	(195,808)
Deficit, end of year	\$ (123,633)	\$ (2,043,850)

See accompanying notes to the financial statements.



# balance sheets

March 31	1998	1997
<b>Assets</b>		
Current		
Receivables	\$ 3,520,525	\$ 4,194,745
Investment tax credits recoverable	818,534	439,466
Inventories	3,493,640	2,995,659
Prepays	176,314	176,815
	8,009,013	7,806,685
Property and equipment (Note 3)	1,896,429	1,573,244
Deferred product development costs (Note 4)	1,899,028	1,001,042
	\$ 11,804,470	\$ 10,380,971
<b>Liabilities</b>		
Current		
Bank indebtedness (Note 5)	\$ 1,216,864	\$ 3,059,471
Payables and accruals	2,689,315	1,680,895
Warranty accrual	291,600	197,400
Deferred revenue	—	326,168
Current portion of long-term debt, debenture and obligations under capital lease	208,961	191,030
	4,406,740	5,454,964
Obligations under capital lease (Note 8)	287,931	132,922
Deferred income taxes (Note 9)	197,723	—
	4,892,394	5,587,886
<b>Shareholders' Equity</b>		
Capital stock (Note 10)	6,310,710	6,111,936
Contributed surplus	724,999	724,999
Deficit	(123,633)	(2,043,850)
	6,912,076	4,793,085
	\$ 11,804,470	\$ 10,380,971

## Contingencies and commitments (Notes 11 and 12)

On behalf of the Board

Kerry Brown, Director

Glynn Davies, Director

See accompanying notes to the financial statements.



# statements of changes in financial position

Year Ended March 31	1998	1997
Cash derived from (applied to)		
Operating		
Net earnings	\$ 2,115,520	\$ 649,311
Depreciation and amortization	495,039	501,019
Deferred income taxes	197,723	—
(Gain) loss on disposal of property and equipment	(2,223)	6,853
	2,806,059	1,157,183
Change in non-cash operating working capital	574,124	(3,443,470)
	3,380,183	(2,286,287)
Financing		
Proceeds from long-term debt	411,849	14,343
Repayment of long-term debt	(162,731)	(157,031)
Conversion of debentures	(76,178)	(70,000)
Issue of shares on conversion	76,178	70,000
Issue of shares for cash	59,010	613,880
Issue of shares for bonus plan	64,798	—
Share issue costs	(1,212)	(65,722)
Dividends paid	(195,303)	(195,808)
	176,411	209,662
Investing		
Purchase of equipment	(621,022)	(276,754)
Proceeds on sale of property and equipment	2,223	14,309
Deferred product development costs net of investment tax credits and write-offs	(1,095,188)	(423,657)
	(1,713,987)	(686,102)
Increase (decrease) in cash	1,842,607	(2,762,727)
Bank indebtedness		
Beginning of year	(3,059,471)	(296,744)
End of year	\$ (1,216,864)	\$ (3,059,471)

See accompanying notes to the financial statements.

# notes to the financial statements

March 31, 1998

## **I. Nature of operations**

The Company manufactures and distributes thermoelectric power generators and heaters to customers both in Canada and Internationally. It also conducts research and development on heaters and remote power devices.

## **2. Summary of significant accounting policies**

### **Inventories**

Inventories of finished goods and work in process are valued at the lower of cost and net realizable value. Raw materials and supplies are valued at the lower of cost and replacement cost. Cost includes material, labour and manufacturing overhead. Cost is determined on a first-in, first-out basis.

### **Property and equipment**

Property and equipment are recorded at cost. Depreciation is applied to write-off the cost less estimated salvage value of property and equipment over their estimated lives on a straight-line basis as follows:

Buildings	5%
Furniture and fixtures	20%
Machinery and equipment	10%
Computer equipment	20%
Leasehold improvements	16 to 20%

### **Research and development**

Research costs are expensed as incurred. Development costs are expensed unless they meet specific criteria related to technical, market and financial feasibility, in which case they are deferred and amortized on a straight-line basis over four years commencing with the first year of production of the related products.

### **Foreign currency**

The Company uses the current rate method for the translation of foreign currency. Under this method, assets and liabilities are translated at the exchange rate prevailing at the balance sheet date. Revenues and expenses are translated at the rate of exchange prevailing at the transaction date. Translation gains or losses are included in earnings.

### **Investment tax credits**

Investment tax credits are accounted for using the cost reduction method, under which investment tax credits are deducted from the cost of the related property and equipment or expenses. Depreciation and amortization are calculated on the net amount of the related property and equipment.

### **Earnings per share**

The calculation of basic earnings per share is based on the weighted average number of shares outstanding during the year of 12,240,686 shares (1997 - 10,740,811 shares).

### **Financial instruments**

The Company has estimated the fair value of its financial instruments which include accounts receivable, investment tax credit recoverable, payables and accruals and warranty accrual. The Company has used valuation methodologies and market information available as at year end and has determined that the carrying amounts of such financial instruments approximate fair value in all cases.

### **Measurement uncertainty and the use of estimates**

The preparation of the financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are subject to measurement uncertainty. Actual results could differ from and affect the results reported in these financial statements.



### 3. Property and equipment

	Cost	Accumulated Depreciation	1998 Net Book Value	1997 Net Book Value
Land	\$ 16,694	\$ —	\$ 16,694	\$ 16,694
Building and leasehold improvements	1,434,261	1,040,737	393,524	373,772
Machinery and equipment	2,982,776	2,188,970	793,806	834,774
Equipment under capital lease	947,083	254,678	692,405	348,004
	\$ 5,380,814	\$ 3,484,385	\$ 1,896,429	\$ 1,573,244

### 4. Deferred product development costs

	1998	1997
Deferred product development costs, beginning of year	\$ 1,001,042	\$ 836,808
Costs incurred during the year	1,363,270	523,141
Investment tax credits earned	(268,082)	(99,484)
Amortization	(197,202)	(259,423)
	897,986	164,234
Deferred product development costs, end of year	\$ 1,899,028	\$ 1,001,042

Deferred product development costs represent costs incurred to date and do not necessarily reflect present or future value.

### 5. Bank indebtedness

	1998	1997
Cash	\$ 35,396	\$ (675,091)
Operating line of credit	(1,252,260)	(2,384,380)
	\$ (1,216,864)	\$ (3,059,471)

The Company has secured an operating line of credit of \$3,750,000. As security, the Company has pledged accounts receivable, inventory and provided a general security agreement over all assets.

### 6. Long-term debt

	1998	1997
Mortgage payable, secured by land and buildings, payable in monthly principal payments of \$5,556 and interest at bank prime rate plus 2%, maturing in July, 1998	\$ —	\$ 22,208
Less current portion included in current liabilities	\$ —	(22,208)
	\$ —	\$ —

### 7. Debenture

	1998	1997
Debenture payable	\$ —	\$ 76,178
Less current portion included in current liabilities	\$ —	(76,178)
	\$ —	\$ —

The amount due to Foundation Equity Corporation is comprised of a debenture in the amount of \$76,178 which bears interest at a rate of 10% per annum. On July 31, 1997 the debenture was converted into 190,445 common shares.



8. Obligations under capital lease	1998	1997
Capital leases, varying effective interest rates from 9.0% to 17.29%, each secured by specific equipment, repayable in aggregate monthly instalments of \$21,612, including interest, due at varying dates to March, 2001.	\$ 496,892	\$ 225,566
Less current portion included in current liabilities	(208,961)	(92,644)
	\$ 287,931	\$ 132,922

Future minimum lease payments under long-term capital leases are as follows:

1999	\$ 248,409
2000	177,180
2001	136,336
	561,925
Amount representing interest	65,033
	\$ 496,892

#### 9. Income taxes

Income tax expense differs from the amount which would be obtained by applying the basic combined Federal and Provincial tax rate to the respective years' earnings before income taxes. These differences result from the following items:

	1998	1997
Expected income tax expense at 36.62% (1997 - 36.62%)	\$ 847,110	\$ 237,800
Increase (decrease) resulting from:		
Share issue costs	(33,900)	(33,800)
ITC's credited to operating expenses	(40,600)	(39,100)
Other	5,600	-
Unrecorded loss carry-forward	-	(211,900)
Unrecorded deferred tax debit	-	47,000
Reduction of income taxes by recognition of previously unrecorded deferred tax debits	(580,487)	-
Deferred income tax expense	\$ 197,723	\$ -

The Company has non-capital losses to carry-forward to reduce future taxable income of \$302,500 which will commence expiring in 2002 (1996 - \$302,500). The benefits to be derived from these losses have been reflected in these financial statements in arriving at the deferred income tax liability.

The Company has available the following approximate amounts which may be deducted in determining taxable income of future years. The amounts are deductible at the annual rates indicated:

	Rate	1998	1997
Undepreciated capital costs	5% - 100%	\$ 1,774,000	\$ 1,500,000
Scientific research and experimental development expenditures	100%	\$ 771,000	\$ 2,087,000
Share issue costs	20%	\$ 120,000	\$ 212,000

**10. Capital stock**
**a) Authorized:**

Unlimited number of common shares, without nominal or par value  
 Unlimited number of preferred shares, issuable in series

**b) Issued:**

	1998		1997	
	Number of Shares	Stated Value	Number of Shares	Stated Value
<b>Common shares:</b>				
Balance, beginning of year	11,847,164	\$ 4,535,382	9,452,192	\$ 3,917,224
Issued for cash (rights offering)	—	—	2,019,698	565,515
Issued on conversion of debenture	190,445	76,178	233,333	70,000
Issued on conversion of preferred shares	166,000	98,147	—	—
Issued for bonus plan	97,639	64,798	—	—
Issued on exercise of options	206,000	35,210	—	—
Issued on exercise of warrants	—	—	26,941	16,435
Issued on exercise of dealer warrants	85,000	23,800	115,000	32,200
Share issue costs	—	(1,212)	—	(65,722)
Balance, end of year	12,592,248	\$ 4,832,303	11,847,164	\$ 4,535,382
<b>Series I preferred shares:</b>				
Balance, beginning of year	666,500	\$ 1,576,554	666,500	\$ 1,576,554
Converted to common shares	(41,500)	(98,147)	—	—
Balance, end of year	625,000	\$ 1,478,407	666,500	\$ 1,576,554
		\$ 6,310,710		\$ 6,111,936

The Series I preferred shares are redeemable by the Company, bear a 10% cumulative dividend, and are convertible at a rate of 4 common shares for 1 preferred share outstanding using a conversion price of \$0.75 per common share. The shares are non-voting except when dividends are in arrears in which case each preferred share is entitled to 4 votes. During the year ended March 31, 1998 the company converted 41,500 preferred shares (1997 — nil) to 166,000 common shares (1997 — nil).

During the year ended March 31, 1998, the Company issued 190,445 common shares on the conversion of one outstanding debenture at a rate of \$0.40 per common share. During the year ended March 31, 1997, the Company issued 233,333 common shares on the conversion of one outstanding debenture at a rate of \$0.30 per common share.

**c) Warrants:**

Pursuant to the common share rights offering completed in 1996, 200,000 dealer share purchase warrants were issued. Each dealer share purchase warrant entitled the holder to acquire 1 common share at \$0.28 per share, expiring February 16, 1998. During the year 85,000 dealer warrants (1997 — 115,000) were exercised.

**d) Options:**

Pursuant to a Stock Option Plan the Company has the following stock options outstanding as at March 31, 1998:

Issue Date	Number of Shares	Issue Price	Expiry Date
December 12, 1996	50,000	\$ 0.28	December 12, 2001
December 12, 1996	312,000	\$ 0.40	December 12, 2001
February 10, 1997	50,000	\$ 0.55	February 10, 2002
June 2, 1997	200,000	\$ 0.55	June 2, 2002



## **II. Contingencies**

The Company has arranged for an operating line of credit at the bank to support Letters of Credit and Guarantees to a maximum of \$2,250,000 Cdn. and an additional facility of \$750,000 U.S.. At March 31, 1998, the Company had utilized Letters of Credit and Guarantees in the amount of \$389,855 U.S. of that facility (1997 — \$690,000) which is covered under Export Development Corporation's wrongful call insurance. In addition, the Company issued guarantees of \$82,745 which are uninsured. Security for the letters is covered under the Operating Line of Credit per Note 5.

An action was commenced against the Company in May, 1992 based on wrongful termination of employment, in which damages of \$90,000 are claimed. The Company has filed a Statement of Defence and a counterclaim against this individual. The Company is not yet able to predict the potential outcome, but it believes that its potential exposure is substantially less than the amount claimed. Any costs arising from the settlement of the claim will be recorded as an expense in the year the amount is determinable.

## **12. Commitments**

The Company has entered into leases for office premises expiring in March 2000 and December, 2001. The annual rent of premises consists of minimum rent plus taxes, maintenance, heat and certain other expenses. Future minimum lease payments for the fiscal years ending March 31, are as follows:

	Cdn	U.S.
1999	\$ 71,120	\$ 11,100
2000	\$ 72,390	\$ 11,100
2001	\$ 54,293	\$ —

## **13. Segmented information**

The Company operates in one business segment as described in Note 1. Export sales for the year ended March 31, 1998 were \$12,173,820 (1997 — \$4,611,031).

## **14. Subsequent events**

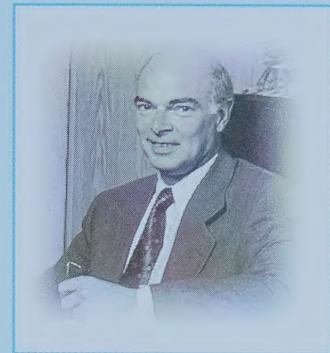
Pursuant to a prospectus dated January 19, 1998 and amended February 27, 1998 and closed April 17, 1998, the Company issued 3,333,333 Units of the Company at a price of \$0.90 per unit. Each Unit consists of one Common Share and one Common Share Purchase Warrant which entitles the holder upon payment of the exercise price of \$1.05 to purchase one Common Share of the Company at any time up to one year after closing of the offering. The proceeds from the offering were \$2,790,000 net of agent's commission of \$210,000. The estimated cost of issue including legal, audit, and printing costs is \$60,000.

Pursuant to an Agency Agreement the Company granted 333,333 Agent's Warrants exercisable at a price of \$0.90 per Common Share for a period of eighteen months after closing of the offering.

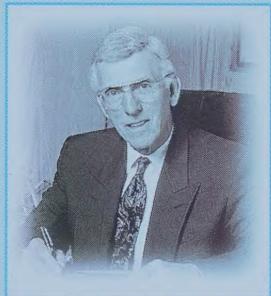
## board of directors



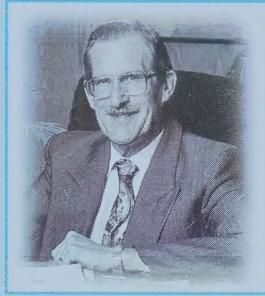
*Kerry Brown is the Chairman and CEO of McCoy Brothers Inc., a TSE listed truck parts company. He is also Chairman of Foundation Equity Corporation, a financing group that is Global's largest shareholder. Since joining Global's board in 1992, Kerry has been one of the driving forces in the Corporation's growth. His financial acumen has been an asset to the board and to management.*



*Glynn Davies has been on Global's board since 1994. He is co-founder, director and Vice President of Barra Resources Inc., an ASE listed company. He was previously Vice President, CFO and COO of Computalog Ltd. His financial and business experience is an asset to the Corporation.*



*Keith Wiggins retired as a senior financial officer with the Province of Alberta in 1991 and joined Global's board in 1992. Keith's experience and knowledge have made him a major contributor to Global's success.*



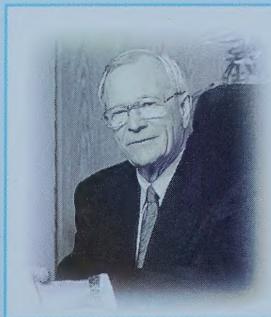
*Bob Snyder is Chairman of the Board of Directors and Chief Executive Officer of Global. He was formerly a Senior Vice President of Nova Gas Transmission Ltd., retiring in 1995. Bob has been a valued part of Global's board since 1994 and served as President from August 1996 to May 1997.*



*John has developed expertise that is a significant resource for Global.*



*John Howard is the Managing Partner of Howard, Kirkpatrick and Amerongen, Chartered Accountants. He is also a Director of McCoy Brothers Inc. and Foundation Equity Corporation. John actively manages a large real estate portfolio and brings a wealth of business and financial knowledge to Global's board.*



*Jim McBride has been a Global director since 1993. He is the President of Prairie Metal Industries Inc. and a Director of McCoy Brothers Inc. and Foundation Equity Corporation. Through his years of manufacturing and distribution experience Jim brings a great depth of practical knowledge to the Global board.*



# corporate directory

## CORPORATE HEADQUARTERS

Bay 9, 3700 – 78<sup>th</sup> Avenue S.E.  
Calgary, Alberta, Canada T2C 2L8  
Tel (403) 236-5556  
Fax (403) 236-5575  
Email: [globalhq@globalte.com](mailto:globalhq@globalte.com)  
Web Site: <http://www.globalte.com>

## MANUFACTURING PLANT

902 – 5th Avenue  
Bassano, Alberta, Canada T0J 0B0  
Tel (403) 641-3512  
Fax (403) 641-3981

## UNITED STATES OFFICE

1801 Kingwood Drive  
Suite 270  
Kingwood, Texas, USA 77339  
Tel (281) 359-8484  
Fax (281) 359-8485  
Toll Free 1-800-848-4113

## DIRECTORS

(1) Audit Committee Members  
(2) Corporate Governance and Compensation Committee Members

### Kerry W. Brown <sup>(1)</sup>

Director  
President, Foundation Equity Corporation

### John W. Chomiak

Director  
President, Hemisphere Engineering Inc.

### Glynn G. Davies <sup>(1)(2)</sup>

Director  
Independent Businessman

### John Howard <sup>(1)</sup>

Director  
Partner, Howard Kirkpatrick Amerongen Chartered Accountants

### Jim McBride<sup>(2)</sup>

Director  
President, Prairie Metal Industries Inc.

### Robert Snyder<sup>(2)</sup>

Director and Chairman  
Former Senior Vice President  
Nova Gas Transmission Ltd.

### Keith Wiggins

Director  
Former Senior Financial Officer  
Government of Alberta

## OFFICERS AND MANAGEMENT

### Robert Snyder

Chairman & CEO

### Jim F. Perry

President

### Jim R. Lumsden

Vice-President,  
Research & Development

### Bernie LeSage

Vice-President, Generator Division

### Gordon McBride

Manager, Engineering

### Eric Potter

International Business Development Manager

### Daryl K. Marling

Manager, Heater Division

### George Longmuir

Plant Manager

### Larry I. Kyle

Secretary and Controller

### Donelda P. Bester

Assistant Secretary

## BANKERS

Bank of Nova Scotia  
Calgary, Alberta

## AUDITORS

Doane Raymond  
Calgary, Alberta

## LEGAL COUNSEL

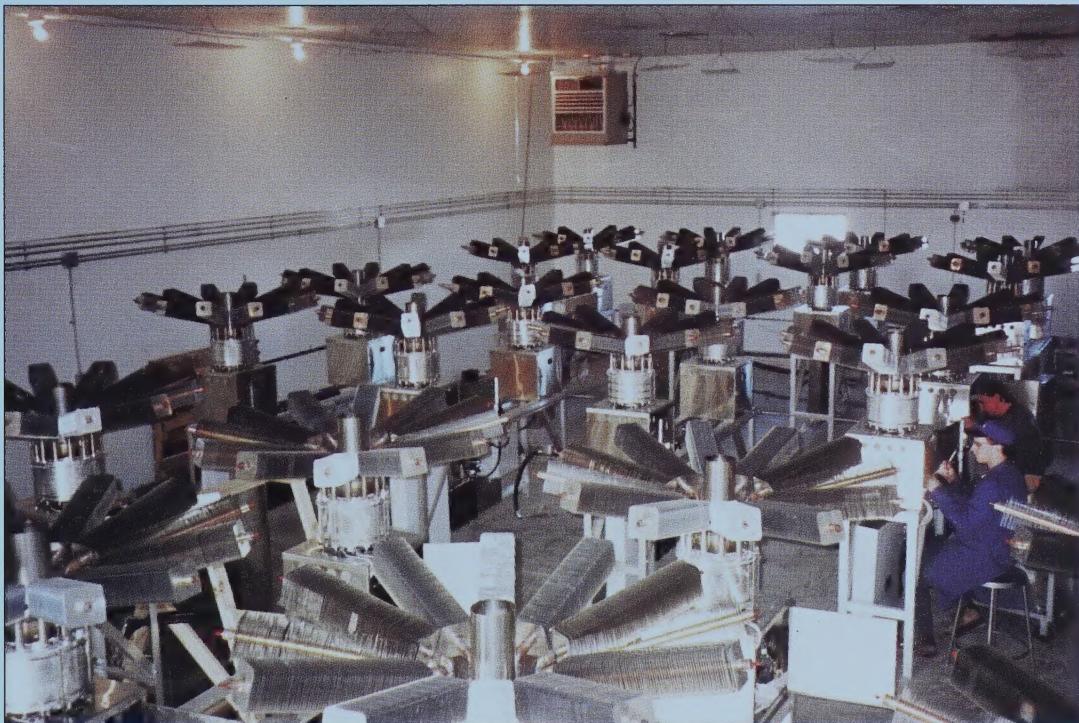
Howard Mackie  
Calgary, Alberta

## TRANSFER AGENT & REGISTRAR

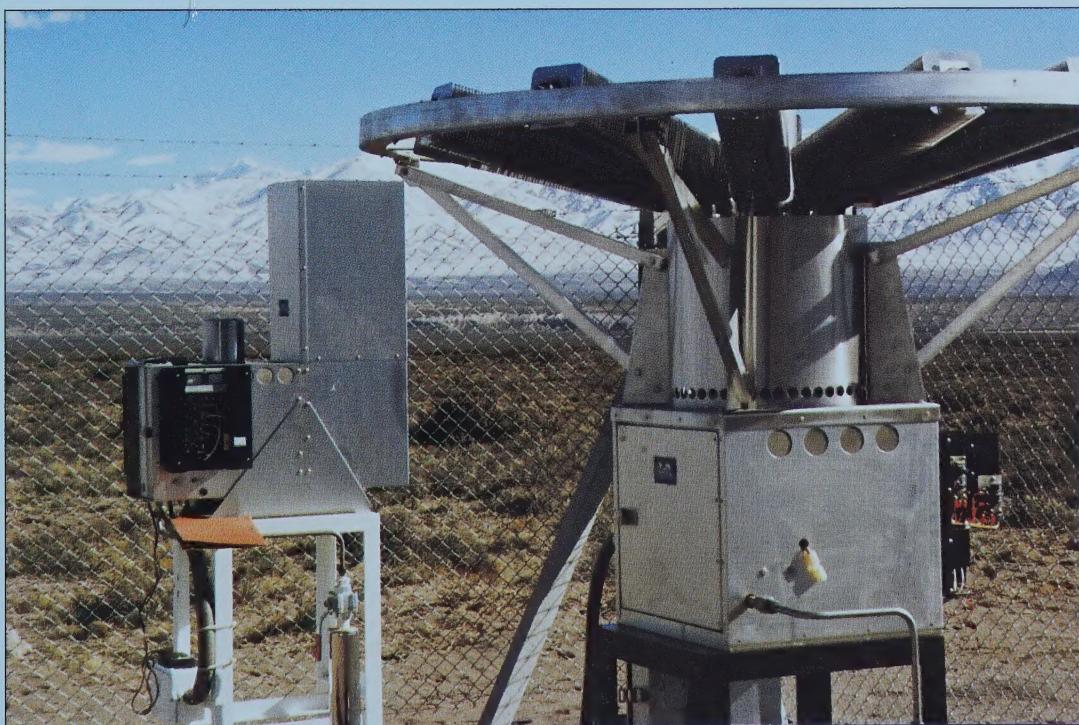
Montreal Trust Company of Canada  
Calgary, Alberta

## STOCK LISTING

The Alberta Stock Exchange  
Common Shares GLE  
Preferred Shares GLE.PR  
Common Share Warrants GLE.WT.A



*Manufacturing 550 watt generators*



*Thermoelectric generators in Argentina*

**GLOBAL THERMOELECTRIC INC.**

Bay 9, 3700 - 78<sup>th</sup> Avenue S.E.

Calgary, Alberta, Canada

T2C 2L8

Tel: (403) 236-5556 Fax: (403) 236-5575

Email: [globalhq@globalte.com](mailto:globalhq@globalte.com)

Web Site: <http://www.globalte.com>

**U.S. SALES HEADQUARTERS**

1801 Kingwood Drive

Suite 270

Kingwood, Texas, USA 77339

Tel: (281) 359-8484 Fax: (281) 359-8485

Toll Free: 1-800-848-4113

